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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

December 16, 2009

REPLY TO THE ATTENTION OF:
WU-16J

John Husted, Chief
Division of Mineral Resources Management
Ohio Department of Natural Resources
2045 Morse Road, Building H-3
Columbus, Ohio 43229-6693

Dear Mr. Husted:

This letter transmits our final report which documents our findings and recommendations from the evaluation we conducted of your Division's Underground Injection Control (UIC) program on October 20-22, 2009. The review was quite productive and we continue to be impressed with the high quality of the UIC program being implemented for Class II and III wells in Ohio. We also continue to be impressed with the level of commitment and dedication of both the management team and the staff.

We especially would like to recognize the efforts of Scott Kell and Tom Tomastik. We note that Scott Kell will be retiring this month after a long and distinguished career. For over 25 years, Scott has provided management support and direction for your UIC program, and the consistently high quality performance of your program is a reflection of his efforts. Scott has also distinguished himself through his role as Vice President and then President of the Ground Water Protection Council (GWPC), where he helped influence national policy in both UIC and ground water protection. We would also like to note the outstanding effort that Tom Tomastik has given in running nearly all facets of your UIC program, and sustaining a high quality program despite severely constrained resources. Tom has also played an important national role through various organizations including GWPC.

Our overall findings indicate that the Ohio Department of Natural Resources (Ohio DNR), Division of Mineral Resources Management (DMRM) is operating a sound and effective UIC program. The Ohio DNR's current program continues to be consistent with the approved program and continues to be on track toward meeting program objectives and workplan commitments. The expertise that your program has developed over the years has enabled the DMRM to continue to implement an excellent program, despite resource shortfalls. We commend you and your staff for your dedication in this effort, however, we remain concerned over the lack of technical and administrative back-up to the UIC geologist, and we urge you to explore options to help address this potential vulnerability. In addition, there a number of new initiatives and priorities affecting Class II UIC programs that will necessitate additional staff if they are to be adequately dealt with. These include hydraulic fracturing, which is already a concern to many citizens in Ohio and throughout the country, and carbon sequestration, which as an integral part of addressing climate change, will likely generate a significant workload.

Thank you the hospitality and cooperation of you and your staff during our visit. We look forward to continuing to build on the partnership that has developed between our agencies over the years through technical exchange, information sharing, and coordination on national and regional efforts. We also appreciate the role your Agency has played in supporting the needs of Region 5 and our states including leadership roles in the Ground Water Protection Council. If you or members of your staff have questions or need additional information, please contact me at (312) 886-6594 or John Taylor or Lillie Davis of my staff at (312) 886-4299 or (312) 353-2202, respectively.

Sincerely yours,

Rebecca L. Harvey, Chief
Underground Injection Control Branch

Enclosure

cc: Scott Kell, Deputy Chief, DMRM
Jeff Fry, Supervisor, DMRM
Tom Tomastik, Geologist, DMRM

Ohio Department of Natural Resources
Division of Mineral Resources Management
Underground Injection Control
October 2009 Program Audit

Executive Summary

On October 20 through 22, 2009, representatives of the United States Environmental Protection Agency (U.S. EPA), Region 5, Underground Injection Control Branch (UIC) met with staff of the Ohio Department of Natural Resources (Ohio DNR), Division of Mineral Resources Management (DMRM) to conduct an audit of the Ohio DNR's Class II and Class III injection well UIC program. In Federal Fiscal Year (FFY) 2009, DMRM received a Federal UIC grant of $181,000. The U.S. EPA representatives efforts were focused primarily on those actions which occurred during FY 2009 for these areas: 1) program administration; 2) permitting and enforcement; and 3) enforcement and compliance. The U.S. EPA representatives conducting the audit were: John Taylor (Senior Advisor); Lillie Davis (State Coordinator); Jeffrey Wawczak (UIC Permitting) and Bill Bates (UIC Enforcement and Compliance).

The last audit of your agency was conducted in October 2005 and this audit was being conducted in accordance with the Region V UIC State Oversight Policy. The next audit of Ohio DMRM's UIC program should occur in 2012 or 2013.

The review team's specific observations and recommendations were discussed during the exit interview with Ohio DMRM representatives: Scott Kell, Deputy Chief of DMRM; Jeff Fry, Western District Region Manager; and Tom Tomastik, Geologist. They are presented in greater detail in this report, with accomplishments/issues listed at the end. In sum, we have found that the Ohio DMRM continues to administer a high quality UIC program with thorough and timely permit reviews, an enforcement program which focuses on abating and reducing non-compliance, and a field inspection program which has been strengthened through the interactive data transfers with the Risk Based Data Management System (RBDMS). The expertise that the Ohio DNR program has developed over the years has enabled the DMRM to continue to implement an excellent program through the dedication of management and staff, despite resource shortfalls. Among the accomplishments of the past four years, we would specifically highlight the following:

(1) An excellent technical program has been maintained despite seriously reduced staffing levels, due to the dedication of the UIC geologist and his managers.

(2) Continued effectiveness of field operations has occurred through the seamless transfer of data between the field and the office. The RBDMS system is being very effectively utilized in this fashion, and will provide a strong base to flow data to EPA's new national UIC database.

(3) Increased national involvement, including a leadership role by key managers and staff

with the Ground Water Protection Council (GWPC) and participation on National EPA workgroups. We especially note Scott Kell's leadership role as President of GWPC, and Tom Tomastik's role as member of GWPC's Water/Energy Division.

(4) The Ohio DMRM has taken a very active role in the development of the carbon sequestration program, including Scott Kell's participation on EPA's national regulation development workgroup, and Tom Tomastik's role as a member of GWPC's Carbon Dioxide Geo-Sequestration Workgroup, and in helping lead training sessions on the subject through GWPC.

We commend the Ohio DMRM on their outstanding efforts and we offer our comments to help maintain and advance a historically excellent program. Our recommendations focus on the need for additional technical and administrative staff to meet program workloads and provide needed redundancy. We are also focusing on the need to work collaboratively to meet the new initiatives and challenges facing Class II programs throughout the country with emphasis on carbon sequestration, hydraulic fracturing and national linkages through EPA's new national UIC database. To meet these challenges and maintain a high quality program, additional resources are clearly needed.

Program Administration

Observations/Discussion

The general responsibilities of all DMRM employees who provide administrative support for the Class II and III UIC Program, as well as technical support, inspections and enforcement activities are described in the UIC Program Quality Management Plan.

Tom Tomastik, Geologist in the Technical Support Services Section, performs a wide range of functions for the Division's UIC Program. These functions include: all UIC Class II and Class III permitting activity, file reviews, tracking brine hauling and brine spreading, resolutions and reports, coordinating all UIC enforcement activity, and maintaining the UIC enforcement database. Tom prepares all UIC Chief's Orders (Administrative Orders), which are then signed by DMRM Chief John Husted. Additionally, as part of the Division's agreement with Ohio EPA, Tom reviews and comments on Permits to Operate (PTO) and Land Ban Petitions for all Class I wells and reviews new applications for Class V injection wells in Ohio. Some of the Class V applications reviewed have included: injection of cement or flyash into abandoned underground coal mines for stability near Ohio highways and injection of coal waste by-products into abandoned coal mines. Additionally, Tom prepares the annual UIC grant.

Currently, many of DMRM's Mineral Resources Inspectors (MRIs) perform inspections for both the mining and oil and gas industries. U.S. EPA is encouraged that DMRM is working toward re-alignment of program resources so that field duties of the inspectors will be industry specific, with some inspectors assigned as lead workers for District UIC activities. These plans have not been finalized and are dependent upon on proposed funding increases and program changes currently before the Ohio legislature.

In addition to UIC work, Tom Tomastik spends approximately 25 percent of his time conducting complex groundwater investigations related to oil and gas or industrial aggregate mining operations. Currently, 23 MRIs conduct the majority of all the UIC inspections. Unannounced inspections are conducted at least once every 11 to 12 weeks. Field Supervisors Jeff Fry, Rob Stonerock and Jay Cheslock, as well as Tom Tomastik, review all UIC inspections and transfer these inspections to the main RBDMS database. Occasionally, Tom Tomastik also assists with coverage of UIC field activities.

Geologist Mike Williams, from the oil and gas permitting staff, is currently being trained on UIC permitting activities. At this point, Mike only spends about 5% of his time on UIC functions. Assignments and staffing levels in the central office may also change depending on any changes approved by the legislature.

Organizational and Rule/Procedural Changes

Observations/Discussion

On July 1, 2000 the Ohio Department of Natural Resources (Ohio DNR) reorganized two divisions by combining the former Division of Oil and Gas and the Division of Mines and Reclamation into the Division of Mineral Resources Management (DMRM). This Division manages the coal mining, industrial minerals, and oil and gas industries, as well as UIC. DMRM manages field activities through eight field offices located in Salem, Jackson, Uniontown, Cambridge, New Philadelphia, Mt Vernon, Athens and Columbus. Most field staff were cross-trained in at least two program areas, thus there currently are a large number of inspectors, although most of them spend only limited time on UIC facilities. The Division is currently pursuing a realignment plan to re-establish separate inspection teams, which would allow designated inspectors to concentrate solely on UIC and oil and gas activities.

No major rules have been adopted during the past several years, although proposals currently before the Ohio legislature would effect major changes including increasing permit application fees for salt water disposal wells and levying a per barrel fee on brine disposal. In addition, the Ohio DNR is seeking specific legislative approval to allow alternative tests to demonstrate maximum injection pressure. This would allow re-instituting step rate tests as an option for operators. This step rate test would be written as an SOP and an agreement would be reached with the industry regarding any appeals of the test results. Also, once USEPA issues final rules for carbon sequestration, Ohio DNR may need to seek necessary approvals to adopt those rules.

At the time of the last review, there were issues concerning the difference in plugging rules between those of the former Division of Oil and Gas and those of the former Division of Mines and Reclamation. These issues have now been successfully resolved.

Recommendations/Conclusions

The Ohio DMRM has addressed a program weakness by implementing new plugging rules throughout the state, and as a result, the UIC program rules are up-to-date and easily

accessed on the Division's website. We support the Ohio DNR's effort to stay ahead of the curve by preparing for a potential large workload of carbon sequestration injection projects. We also ask the Ohio DNR to keep us informed of any approved program changes.

Data Management

Observations/Discussion

It has now been 14 years since the Ohio DMRM has implemented the RBDMS. The basic system was developed by consultants for the GWPC with funding largely provided by the Department of Energy. The Ohio DMRM played a major role in the national implementation of RBDMS, and Rick Simmers and other Division personnel served on the GWPC "RBDMS Users Group". Additionally, Gregg Miller, the Division's computer specialist, has developed the field version of RBDMS, the links to the well spot software and GPS location data, and the enforcement database.

RBDMS allows a state to manage the entire oil and gas program, including UIC, with the flexibility to develop specific modules for the individual needs of that state. The Ohio DMRM has chosen to do that and has placed special emphasis on the field module. This module allows the field inspectors to enter real time data directly into their laptops, perform the necessary inspections, or witnessing well constructions, or mechanical integrity tests (MITs) in the field and then download this data into the Division's main RBDMS database in Columbus. All field data is reviewed by the field supervisor, who then transfers the data to the Columbus database. Data is usually downloaded by the MRIs about twice a month. As a result, central office staff has relatively real time information on field activities, including violations, and can take enforcement actions in a very timely manner.

While the national UIC program was first implemented in the early 1980's, it was not until 2005 that work was begun by EPA Headquarters to develop a national UIC database. This effort was determined to be necessary to better integrate UIC activities around the country, and to provide increased visibility for the program, which is needed for the program's accomplishments and challenges to be properly understood by national policymakers. The design of the national database has now been largely completed, with the next step being the flowing of data to it by all primacy and direct implementation programs by 2012. The DMRM has begun some data mapping work in support of this objective, however, the effort would be greatly enhanced if additional financial support could be provided. EPA offers a Network Exchange Grant program to provide this sort of support. Grants are awarded on an annual cycle based on competition. In 2008, the Ohio DNR submitted an application in partnership with the Ohio EPA, however, the application was not selected for funding. Based on lessons learned, the two agencies submitted a revised application for the 2009 grant competition, and they are optimistic about its chances for approval. Once the Ohio DNR is able to flow data without error to the national system, it will be possible to utilize this system to satisfy all EPA reporting requirements, which now have to be met manually.

Recommendations/Conclusions
The use of RBDMS has benefitted the Ohio DMRM UIC program. The efficiencies of the system, especially with regard to field activities and permitting, have assisted the Ohio DMRM in operating an effective program despite resource shortfalls. It is important that the program now successfully complete the flowing of data to the new UIC national database. Region 5 will work with DMRM to provide whatever support we can toward this effort, and we are hopeful that Ohio DNR will receive a Network Exchange Grant to support this initiative.

Quality Assurance Management Plan (QMP)

Observations/Discussion
As required, Ohio DMRM Quality Management Plan (QMP) was submitted and approved by U.S. EPA in November 2002. Ohio DMRM has developed 14 standard operating procedures to implement the QMP. If currently proposed program changes are adopted, substantial changes to the QMP will be necessary.

Recommendations/Conclusions
Ohio DMRM should update their QMP as needed on an annual basis. Once major program changes occur, a substantial update will be needed.

UIC Primacy Program Update Package

Observations/Discussion
Ohio DNR's primacy package was approved for Class II wells in accordance with Section 1425 of the Safe Drinking Water Act (SDWA) and became effective in September 1983, and primacy for Class III wells was approved under Section 1422 of the SDWA and became effective in January 1985. These approvals were codified in 40 CFR Section 147, and it is necessary to update that section whenever substantial program changes occur. The Ohio DNR has previously provided Region 5 with portions of a 147 update which include major changes to annular disposal rules. At this time, Region 5 has elected to hold this material, pending a decision regarding proposed major program changes which are currently under discussion in Ohio. In addition, it is anticipated that new final national regulations concerning carbon sequestration will issued during the next year, and there is a strong possibility that changes will need to be made to the Ohio DNR program as a result.

Recommendations/Conclusions
Once any proposed changes to the Ohio DNR program have been implemented, as well as any changes necessary to adopt the new carbon sequestration regulations, the Ohio DNR should then proceed to finalize the 40 CFR 147 update package. Region 5 will be available to assist the Ohio DNR in this effort, as needed.

Permitting

Observations/Discussion

For the Federal Fiscal Year (FFY) the Ohio DMRM issued 17 Class II and 2 Class III injection well permits. This included 10 salt water disposal wells, 2 enhanced oil recovery wells and 5 annular disposal wells. From this group, five Class III (solution mining permits) and five Class II (salt water injection wells) were selected for detailed review. The Class II and Class III permit applications were thorough and well documented, however organization of the files made it difficult to navigate each folder. Upon a detailed inspection of the files it was noted that each file reviewed contained all the necessary information required. Files reviewed contained a checklist of the required steps and procedures in the issuing of a permit. Each step was signed and dated keeping an accurate record of permitting process. The Class III files reviewed also contained copies of the public notices cut out from the local newspapers. Each file has a map of the AOR, along with details on any wells that may fall within the AOR. The geology of the area of the well was also documented along with any special conditions that needed to be met. Overall all permit actions were on the conservative side and the permits/conditions were found to be protective of underground sources of drinking water.

Recommendations/Conclusions

The permit audit shows a continuation of the Ohio DMRM's very thorough UIC program, with a detailed permit review followed by an excellent field/inspection presence. The UIC staff reviewed all permit applications internally and assured that all requirements were met. All permit actions were on the conservative side and the permits/conditions were found to be protective of underground sources of drinking water. The only change that we would recommend would be to define and implement a better organization scheme for the well files. We realize that this has not been a priority given the current constraints on resources, however, once new staff is brought on board, a more consistent organization scheme would assure that documents are not accidently missed.

Field Inspections

Observations/Discussion

When the DMRM was created in July 2000, the various mineral resource programs were consolidated for the purposes of inspections. This led to a significant increase in the number of inspectors involved in UIC activities, although the time devoted by each individual inspector to UIC was less than before. Following the cross–training of field staff, a schedule of inspections was established whereby each Class II well receives an inspection about once every 12 weeks. Class III wells are inspected once a year, and the 2072 temporarily abandoned AD (TAAD) wells are inspected at least once every 5 years. Inspections are also conducted for new Class II and Class III well construction, UIC well plugging, and citizen complaints. In some cases, inspectors have inspected a UIC well site eight or nine times during the well construction phase.

One of the most effective features of the DMRM's UIC program is their field presence. DMRM is quite diligent in their efforts to monitor permitted facilities for compliance, despite the fact that the field inspector's UIC duties are only a small portion of their overall responsibilities. By inspecting facilities every 12 weeks, DMRM is able maintain an on-going presence which helps contribute toward greater rates of compliance by operators. The effectiveness of this effort is further enhanced by the use of RBDMS. The field inspectors are currently using laptops in the field to enter data into the RBDMS database. The system also allows them to check a facility's history on-site and to assess any enforcement actions, if necessary. The DMRM has also developed custom queries to enable managers to generate reports that list inspection activities by inspector and by well.

Due to the efforts of the field inspectors Ohio DMRM is able to witness 100 percent of the salt-water injection well plugging operations, 100 percent of the mechanical integrity test, and a least 90 percent of the setting and cementing of surface casing.

Recommendations/Conclusions

The audit shows a continuation of the Ohio DMRM's very thorough UIC program, with an excellent field/inspection presence. The UIC geologist reviewed all permit applications internally and the field staff then witnessed the critical construction operations such as setting the tubing/packer and cementing of the surface casing. Also all (100 percent) of the MIT's were witnessed and all (100 percent) of the conventional Class II wells were inspected every 12 weeks. All of the UIC field inspections are now being entered directly into the RBDMS with hard copies placed in the well files.

Annular Disposal (AD)

Observations/Discussion

The Ohio DMRM continues to reduce its number of temporarily abandoned annular disposal (TAAD) wells using the regulations adopted in 1982, 1984 and 1989. The number of TAAD wells removed from that status since October 1, 1992 is approximately 8115 wells; leaving the number of currently authorized AD wells at approximately 82 wells.

The Ohio DMRM stores data for all of the active injection wells in its RBDMS database. This database contains the well name/location, operator information, formation tops, production and injection intervals, drilling/completion data and other historical data for all Class II & III wells. The database is used for scheduling and tracking AD well MITs/results, Notice of Violation, Chief's Orders (AOs), other formal enforcement action, permit tracking, and UIC well data. The database is also used to automatically generate letters withdrawing approval for AD wells when no MIT has been performed as required and to notify the inspector to conduct a follow-up inspection to verify that the well has been disconnected.

All current annular disposal wells on the inventory meet current construction requirements including cement behind the casing. There are currently 82 active AD wells in Ohio. They must pass an initial MIT test before they can be used and then again once every 5 years. There is no expiration date for TAAD wells and no mandatory testing requirements for them so long as they stay in the TAAD category.

Recommendations/Conclusions

The Ohio DMRM has done a commendable job of reducing the number of TAAD wells from a high of approximately 10,000 wells down to approximately 2072 at this time. Since these wells are not tested for MI while inactive, our only suggestion to improve the program would be for those wells not currently being utilized for oil and gas production, to obtain a fluid level on the annulus when inspections are performed, or require the operator to submit a fluid level on an annual basis.

Mechanical Integrity Tests (MIT)

Observations/Discussion

Mechanical integrity tests are a permit condition for all Class II and Class III wells. Monthly data sheets and the RBDMS database are used to track conventional injection well MIT status. Every fall, a computer-generated letter is sent to all AD well operators notifying the operator of the date by which the test must be completed. Most MITs failures in conventional Class II injection wells are the result of tubing or packer failures. For any well losing mechanical integrity (MI) or failing a MIT, a Chief's Order is issued (unless the company immediately ceases operation and brings in a well work over rig to repair the well) and the injection well must be shut-in immediately until the cause of failure is corrected, or the well is to be plugged within six months. Inspectors witness all repairs. The inspector has a detailed testing report to record MI tests, along with detailed information on well construction, location and test data. It the well fails the test; the operator can continue to repair the injection well or apply for a permit to plug and abandoned the well.

The Ohio DMRM uses the standard annulus pressure tests (SAPT), annual pressure monitoring (APM), monthly minitests, and the positive displacement test (PDT) for Part I of MIT for Class II injection wells. Initial SAPTs are required on all new or converted Class II saltwater injection and enhanced recovery project (ERP) wells. A SAPT is also required any time the packer is unset or removed from the well. The required test pressure (the maximum injection pressure or 300 psi, whichever is greater) is held for 15 minutes with an allowable pressure change of (+/-) five percent. State inspectors or geologists' witness 100 percent of all SAPTs, including retests after the packer has been set. All conventional Class II wells are required to either continuously monitor the annulus pressure (APM) or perform monthly mini-tests to demonstrate MI. APM is where a positive pressure must be kept on the annulus and monitored by the operator monthly. The other option is to conduct a "mini-test" where the operator can conduct a monthly SAPT pressure test at 200 psi or greater for 15 minutes with an allowable (+/-) five percent change in pressure. Inspectors check the annulus pressure during routine inspections and often witness the mini-tests. Annular disposal well MITs are run using

nitrogen to displace the fluid below the surface casing and the pressure is held for one hour with a (+/-) one percent change allowed. The test pressure must be at least the pressure required using the following formula: {[(casing depth ft)(0.433psi/ft)] + 50 psi}. The Division revokes authorization to use annual disposal wells, which have not conducted and passed a MIT by the required five year date subsequent to initial MI tests. Class III wells require an initial SAPT and then the freshwater-brine-interface test once every five years. For conventional Class II wells, the operator is required to file an annual report summarizing these tests, which also include injection volumes, maximum/daily average injection pressures and annulus pressure. Class III well operators must file reports on a quarterly basis. Class II annual disposal and Class III wells require MITs every 5 years.

Part 2 of MI, the lack of fluid movement adjacent to the well bore, is demonstrated through there view of cementing records for Class II wells; which require a minimum of 300 feet or cement above the injection zone (calculated or verified by cement bond log). For Class III wells cement bond logs are required to verify the quality of the cementing job to verify Part 2 of MI.

Recommendations/Conclusions

The Ohio DRM continues to closely monitor mechanical integrity testing with the witnessing of 100% of standard annulus pressure tests and frequent witnessing on monthly mini-tests. Wells failing the tests are quickly addressed by DMRM staff. This area continues to be one of the strongest points of the Ohio DMRM program.

Well Pluggings

Observations/Discussion

The DMRM has maintained an exemplary Idle and Orphan Well Plugging Program(I&O Program) since its inception in 1976. Wells in the I&O Program are scored based on their environmental or health, and human safety factors. High priority wells are plugged first under this program. The I&O Program is funded primarily by severance taxes from the oil and gas industry. From 2000 through 2005, the I&O Program spent $625,000 to 1,000,000 annually, and plugged approximately 60 to 90 wells each year. From 2005 to 2008, as a result of declining resources only 13 to 51 orphan wells were plugged annually.

Recommendations/Conclusions

The Orphan Well Program as administered by the DMRM has played an important role for many years in protecting underground sources of drinking water in Ohio. We urge the DMRM to identify ways to restore adequate funding for this program.

Enforcement and Compliance Assurance

Observations/Discussion

The focus of US EPA, Region 5's file review was on Notices of Violations (NOVs) and Chief's Orders (Administrative Orders). During Federal Fiscal Year 2009, Ohio DMRM issued 54 NOVs and 18 AOs for Class II wells. Twelve of these were AOs for revocation of annular injection well operations. In 2005, Ohio DMRM witnessed 100 percent of the Class II and Class III injection well plugging operations. They also witnessed 100 percent of the mechanical integrity tests and about 90 percent of the setting and cementing of surface casing.

The issuances of the NOVs are done in the field by the field inspectors or by Tom Tomastik in the Columbus office. Field issuance is accomplished via the RBDMS database, which they can print off of their laptop computers in the field. The notice of violation is given to the operator onsite or is mailed to the operator. Typical NOVs are issued for inability to inject, pollution and contamination, identification, valve replacement, suspension of operation, and failure to a conduct minitest. Violations that warrant an administrative order (Chief's Order) are called into Tom Tomastik the day of the inspection and the Chief's Order is issued within one day. The compliance rate may be impacted by the field inspectors' ability to conduct follow-up inspections in a very short timeframe. Since the inspectors are responsible for a number of different programs, follow-up inspections must compete with other established priorities. A reorganization proposal to re-establish a separate UIC/oil and gas inspection team is currently under consideration. If adopted, it should minimize any issues with re-inspections.

The Ohio DMRM is also not able to require a monetary penalty for significant noncompliance violations, as it does not have administrative penalty authority. The only penalizing authorities that Ohio DMRM has are the ability to pull the operators' bond, place the operator on the permit hold list, or issue suspension orders.

During the past year, the DMRM referred a case involving Arvilla Oilfield Services to Region 5 in view of the operator's non-compliance with repeated state requests to plug and abandon two wells. Region 5 sent out a warning letter, which led to the company quickly contacting the DMRM and negotiating a closure schedule. This demonstrates that for selected instances of repeated non-compliance, Region 5 may be able to assist DMRM since Federal involvement, with our ability to levy substantial administrative penalties, often serves to help bring about compliance.

During the past review, there had been a concern about change in ownership notification for field inspectors. This issue has now been addressed. An area of concern identified during this review is related to the organization of the well files. As the files are currently organized, it was difficult to identify when a company has come back into compliance after receiving a NOV.

Recommendations/Conclusions

This audit has confirmed that Ohio DMRM has a very thorough Underground Injection Control Program and that enforcement is an integral component of it. Through the use of the RBDMS database in the field, the staff has been able to respond to violations in a very efficient manner. We suggest that Ohio DMRM continue doing QA/QC of this system to ensure that RBDMS is up-to-date. As mentioned in previous audits, we urge the Ohio DNR to consider seeking administrative penalty authority, which could increase compliance rates and eventually decrease the number of violations that the field and office staff need to address. This could also avoid sometimes cumbersome and time consuming legal referrals. Region 5 will also continue to be available to help with a limited number of referrals; this has proven to be an effective deterrent, as evidenced by the quick response from Arvilla Oilfield Services after receiving our recent warning letter over their failure to plug and abandon two UIC wells. In addition, the enforcement program would benefit from defining and implementing a better organization scheme for the well files, which would allow the easy identification of when a well comes in and out of compliance.

Citizen's Compliants

Observations/Discussion

The number of citizen complaints concerning existing wells has dropped significantly in recent years. However, with the recent increase in drilling activity in Ohio, more concerns are now being raised about proposed new wells. The DMRM has made it a priority to respond to citizen concerns, as reflected by the recent public meeting in Ashtabula County. While the DMRM does not have the regulatory authority to satisfy the demands of those who wish to stop all drilling for oil and gas in northeast Ohio, they can assure that the various safeguards that exist in the program are strictly enforced. Through the public meeting and other contacts with local citizens, they have sought to communicate this message.

Recommendations/Conclusions

The Ohio DMRM has established a record of effectively responding to citizen complaints and concerns. The concerns expressed often result from a lack of understanding of program requirements and legal authorities, and the Ohio DMRM has made a strong effort to educate the citizens who contact them. It is important that program safeguards be strictly enforced to ensure that drinking water resources are protected, and the DMRM has made commitment to do so.

National and Regional Leadership

Observations/Discussions

The Ohio DMRM has consistently played a significant role in the national leadership of the UIC program. This has been accomplished through participating in National USEPA Workgroups on activities such as measures and reporting and through a strong leadership role in the Ground Water Protection Council (GWPC). Tom Tomastik currently serves as on the Water Energy Division Steering Committee, as well as GWPC's Carbon Sequestration Workgroup. He has also given presentations on Class III wells to

professional organizations, and serves on various committees for the National Ground Water Association. Scott Kell, Deputy Chief of the Division of Minerals Resources Management, is a member of the GWPC Board of Directors representing the Region 5 UIC programs, and is the Past President of GWPC. As President, Scott represented the organization at many important national meetings and was instrumental in assuring that the views of Region 5 states were heard.

This active participation has led to wide recognition of the accomplishments of the Ohio DMRM, as well as providing an opportunity for serious consideration of the major issues, which the Agency has faced. As a consequence, the input of the Ohio DMRM is routinely sought whenever USEPA Headquarters considers a major policy decision. The state is also able to serve as champion of Regional concerns affecting all Region 5 UIC programs.

Recommendations/Conclusions

Ohio DMRM national leadership role has been highly effective and has helped regional concerns receive proper attention. We urge the Agency to continue in this role.